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ABSTRACT

This paper discusses the development of a questionnaire to measure attitudes and beliefs that predict intercultural adjustment (ICA) as opposed to intercultural communication or acculturation. Piloting of the first version of the measure suggested that 153 items may be valid predictors of ICA; this study attempts to further reduce the number of items on the scale to a smaller, more manageable number. The questionnaire, along with a measure of adjustment also developed in the pilot work, was administered to 34 Japanese post-secondary students from the San Francisco area. In a focus group setting, each participant was rated on level of adjustment to the United States by himself or herself, by others in the group, and by facilitators after an extensive discussion of positive and negative experiences related to adjustment to the American culture. Responses on the predictor measure were correlated with those on the adjustment measure and with the three ratings. Results of this study suggest that 45 of the 153 items selected are valid predictors of ICA for Japanese students. Three tables and 14 references are included. (Author/MKA)

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ED 430 171

Running head: ICAPS: A NEW SCALE OF INTERCULTURAL ADJUSTMENT

ICAPS: A New Scale of Intercultural Adjustment II

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Abstract

In 1997, we developed a questionnaire to measure attitudes and beliefs that predict intercultural adjustment (ICA) as opposed to intercultural communication or acculturation. Piloting of the first version of this measure suggested that 153 items may be valid predictors of ICA; this study is an attempt to further reduce the number of items on the scale to a smaller, more manageable number. The questionnaire, along with a measure of adjustment also developed in our pilot work, was administered to 34 Japanese post-secondary students from the San Francisco area. In a focus group setting, each participant was rated on level of adjustment to the U.S. by him or herself, by others in the group, and by the facilitators after an extensive discussion of positive and negative experiences related to adjustment to the American culture. Responses on the predictor measure were correlated with those on the adjustment measure and with the three ratings. Results of this work suggest that 45 of the 153 items selected are valid predictors of ICA for Japanese students.

ICAPS: A New Scale of Intercultural Adjustment

In 1996, 454,000 international students were enrolled in full-time education in American colleges and universities. This represents an increase of 17.3% over the past ten years and 153.6% since 1976 (Bureau of the Census, 1997). These visiting students provide immediate opportunities to promote cultural and international understanding and enrich the learning environment for all students (Sandhu & Asrabadi, 1994; Heikinhelmo & Shute, 1986). As they will likely become leaders in business and government in their home countries, they also provide opportunities to establish long-term trade and diplomatic links (Heikinhelmo & Shute, 1986; Parr, Bradley, & Bingi, 1992). Successful sojourns of these students are beneficial to both home and host countries.

Experiences of international students have been well documented. Over the past few decades, numerous studies and reviews have identified issues associated with adjustment to a new culture. In more recent years, changes in world economics have spurred new studies of problems in adjusting to host cultures. Most of these studies look at a combination of issues; the most common are language difficulty, homesickness, and culture shock. Consequences range from difficulty with coursework, isolation, and mild depression to academic failure, returning home prematurely, and suicide (Cox, 1998; Hammer, 1992; Parr, Bradley, & Bingi, 1992; Perkins, Perkins, Guglielmino, & Reiff, 1977; Sandhu and Asrabadi,1994; Winkelman, 1994) and readjustment to the home culture (Furukawa, 1997; Rohrlich & Martin, 1991). Some researchers have made important distinctions between immigrants and others who may be motivated to assimilate into the

host culture and sojourners who must maintain enough of the home culture for successful re-entry (Cox, 1998; Paige, as cited in Hammer, 1992; Winkelman, 1994).

Another large body of literature has been devoted to identifying factors or dimensions of intercultural competence. While many studies have looked at various practical skills such as language ability or familiarity with the host culture; static, internal characteristics such as personality or demographics, and sojourn characteristics, a few have focused on internal factors that are not dependent on culture-specific knowledge and that allow for adjustment within a personal growth model (Bennett, as cited in Rohrlich & Martin, 1991; Bochner, 1986; Kim, 1988; Matsumoto, in press; Winkelman, 1994). However, despite the amount of data suggesting a need for a proactive approach, and the plethora of literature devoted to factors related to effective adjustment, little agreement has been reached as to practicable ways of predicting and ensuring successful sojourns.

We developed a model of ICA (Matsumoto & Takeuchi, in press), that assumes that conflict and uncertainty are inevitable when verbal and non-verbal communication and social expectations are different. Incorporating literature from both communication and psychology, the model is centered on the ability to regulate emotions as the gatekeeper to intercultural effectiveness. The three steps of the process are emotion regulation, critical thinking, and openness or flexibility. Only after the necessary first step of holding emotional responses in check is it possible to consider alternative explanations to the source of conflict or uncertainty. Openness or cognitive flexibility is required to then accept a plausible rival explanation and to allow for the possibility of good intent.

Currently no measure appears to exist that would identify predictors of successful sojourner adjustment to life in the United States. The next step, therefore, was the

development of a questionnaire for the purpose of identifying attitudes and beliefs that predict intercultural adjustment (ICA) as opposed to intercultural communication or acculturation. For practical reasons, we have chosen to look at factors that are not demographic, as selecting for age or marital status, for example, is not always possible, and may not be beneficial. Immutable factors, such as personality, are not useful if sojourner is already in host country, may eliminate otherwise good candidates if used pre-departure. Also, external factors (e.g., host culture characteristics) may not be known in advance, and if known, may not be possible to select for. Rather, we have chosen to focus on a process model of internal factors that are easily measured, that can be learned either pre-departure or during the sojourn, and that allow for personal growth.

Our scale, based on these three factors, was piloted with Japanese international students at San Francisco State University. Originally a 193-item survey was constructed of statements taken from existing measures of emotion regulation, critical thinking, and openness. This first version was piloted with 28 Japanese international students living in urban areas of California. Correlations of these items with a subjective measure of adjustment indicated that a total of 153 items appeared to be valid predictors of adjustment for Japanese international students (Vogt, et al, 1998). At this point, we have chosen to limit our sample to Japanese students to allow for the possibility that predictors of ICA are culture specific, as some of the literature indicates (Heikinhelmo & Shute, 1986; Okazaki-Luff, 1991; Perkins, et al, 1977; Redmond & Bunyi, 1993), and because Japan currently sends more students to U.S. colleges and universities than any other single country (Bureau of the Census, 1997). The purpose of this study is to further reduce the items to a more manageable number.

Methods

Participants

Participants for this study were 34 Japanese international students living in the San Francisco Bay Area. They were fairly evenly divided by gender (58.8% female and 41.2% male) and educational level (41.2% undergraduates, 55.9% graduate or post-baccalaureate, 2.9% declined to state). The age range was 21 – 35, with a mean of 27.8. Most of the participants were not employed (91.2%), and only one worked more than 15 hours per week.

Materials

Three questionnaires, all written in English, were used to collect data for further development of the predictor measure. They included:

- Intercultural Adjustment Potential Scale (ICAPS). Participants in our study responded to items on the revised measure on a separate answer sheet, using a 7-point scale ranging from 1 (Strongly Agree) to 7 (Strongly Disagree).
- Additional Items for Japanese Sample. This outcome measure (also piloted in the earlier study) included a seven-item subjective measure of adjustment, plus questions on grades in the United States and Japan, relatives in the San Francisco Bay Area, and self-perceived competence in written and spoken English.
- A Demographic Questionnaire

In the focus groups, we posed a series of open-ended questions on four themes: problems encountered in the U.S., benefits experienced in the U.S., concrete consequences of adjustment problems, and positive outcomes from adjustment to the U.S. The questions included:

- What are the biggest differences between living in Japan and living in the United States?
- What things do people in the United States not know about Japanese students?
- What do you like most about studying and living in the United States?
- What do you like least about studying and living in the United States?
- What are the hardest parts of studying and living in the United States for you?
- What are some of the small things that you do not like about being in the United States?

Subjective ratings of each participant's current adjustment level and perception of how well he or she matched with American culture prior to arriving here were also collected from the participant, from fellow participants, and from the two facilitators. All ratings used a 7 point scale, ranging from 0 (not at all adjusted/matched) to 6 (perfectly adjusted/matched).

Procedures

We conducted five focus groups, each made up of between four and six Japanese international students to collect data on their experiences in and adjustment to the United States. Prior to the focus group session, packets containing the three measures listed above were given to participants, who returned the completed measures when they attended the session. Two bilingual researchers conducted the focus groups in Japanese. Following

introductions and unstructured discussion over refreshments, the researchers explained the purpose of the study and the necessity for honest rather than polite answers. The researchers then posed a series of open-ended questions in a discussion of the kinds of problems and benefits they (or their friends) have experienced in the process of adjusting to life in the U.S. and the concrete consequences of those experiences. These discussions typically lasted 1 to 1½ hours. At the end of the discussion, the facilitators asked the participants to rate their own adjustment to the U.S., and how well they matched American culture before leaving Japan. No mention had been made of the ratings prior to this point. When the self-ratings were completed, each focus group participant was also asked to rate his or her peers in the group, and finally the two facilitators rated each of the participants on adjustment and matching levels. The means of peers' and facilitators' scores were computed for use in the analyses.

Scoring of the Additional Items for Japanese Sample

Three of the seven items of adjustment (items 1, 3, and 5) were reverse-coded to standardize the direction. A composite adjustment score was created by computing the mean of the seven items. Three composite scores for language were also created by computing the means of listening and speaking scores, reading and writing scores, and scores on all four language items.

Results

Validity of the ICAPS items was tested by computing correlations between each of the 153 items comprising it and each of the adjustment scores (the ratings from the focus groups, the composite adjustment score from the outcome measure, and composite language scores). We retained items according to criteria consistent with scale construction.

Table 1

Correlations among Selected Items and Adjustment Scores

	Adjustment Scores			
Items	Self Rating	Peer Rating	Facilitator Rating	Adjustment Measure
Item 3	.0870	.2333	.1688	.2998*
Item 8	.2359	.4014**	.1731	.1745
Item 12	.4041**	.1868	.2015	.0887
Item 14	.3118*	.0500	.0638	.5767***
Item 15	-.2822	-.4360**	-.4299**	-.1072
Item 16	.2274	.5759***	.3372*	.1654
Item 18	.2928*	.2400	.2126	.2345
Item 20	-.0838	-.2096	.0398	-.3384*
Item 24	.2990*	.4119**	.2721*	.1369
Item 26	.0425	.1460	.2972*	.1755
Item 28	-.0446	-.2935*	-.2048	.1470
Item 32	-.4056**	-.0109	-.2584	-.0294
Item 39	-.1545	-.3127*	-.2239	-.3624**
Item 40	.3211*	-.0438	.2441	.2540*
Item 41	-.0449	-.2644	-.2703	-.0247
Item 50	.2572	-.0170	.2342	.2369
Item 55	.1660	.1114	.3226*	.3380*
Item 56	-.2329	-.2133	-.2145	-.1255
Item 59	.0989	.3244*	.1497	-.1195
Item 60	-.2226	-.2285*	-.2170	.2001
Item 64	.4212**	.0780	.1304	.3421*
Item 65	.4672***	.0630	.1071	.2545
Item 70	.0190	-.1330	-.2032	.0250
Item 71	.3123*	.3597**	.3414**	.0757
Item 72	-.2175	-.1219	-.3002*	.0697
Item 74	-.1399	.0576	-.2739*	-.2027
Item 75	-.2079	-.2750*	-.3464**	-.1606
Item 76	.2609	.3832**	.4140**	.0555
Item 87	.2698	.1750	.1462	.2988*
Item 94	.0429	.2871	-.1721	.0249
Item 95	-.0810	-.2389	-.0635	-.2316
Item 96	-.1409	-.0936	-.3287*	-.2463
Item 103	-.2222	-.3046*	-.0043	-.3609**
Item 106	.0960	.2222	.2820	-.0556
Item 107	-.4077**	-.2155	-.1207	-.1288
Item 116	.3383*	.2460	.2240	.0142
Item 118	.2452	.2453	-.1157	.1611
Item 121	.1274	.2025	.2918*	-.1613
Item 122	-.1491	-.1279	-.2823*	-.1589
Item 123	-.3073*	-.3713**	-.4635***	-.3500*
Item 124	-.1825	-.2477	-.1487	-.2045
Item 139	.0321	.3245*	.2760	.0458
Item 140	.2430	.1930	.1206	.3948**
Item 141	.2722	.3551**	.2102	.5267***
Item 145	.2664	.1571	.1110	.3535**

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

First we selected the 30 items with the lowest summed probabilities of adjustment ratings by peers and facilitators. For the remaining 15 items we used self, peer, and facilitator ratings and outcome measure adjustment score correlations for the criteria. Items were selected if two or more of the four correlations were significant ($p \leq .05$), if one correlation was significant ($p \leq .05$) and another approached significance, if one correlation was highly significant ($p \leq .01$), or if two correlations approached significance. Table 1 above shows correlations for each of the selected items with the four ratings used in the selection criteria. The current ICAPS consists of these 45 items.

One or more of the three composite language scores correlated significantly with almost half of the 45 selected items; however, we chose not to work with that data at this point in the study, as it is unclear whether it is primarily a result or a predictor of adjustment. To check for consistent gender differences in responses to items or in correlations of items with adjustment scores, we split the data by gender and calculated *t*-tests and correlations. As Table 2 shows, males scored significantly higher ($p < .05$) on four of the items that met criteria for inclusion in the new 45-item scale, Item 20 (spanking a child is the best way to teach them), Item 56 (watching ballet or modern dance performances is boring), Item 96 (I hardly ever get excited), and Item 103 (I am a traditional person). All four items correlated negatively with adjustment scores. Females did not score higher than males on any of the items.

Table 2

Items with Significant Gender Differences

	Male			Female		
Item	M	SD	n	M	SD	n
Item 20	3.69	1.84	13	2.15	1.31	20
Item 56	5.21	2.16	14	2.65	1.69	20
Item 96	4.07	1.77	14	2.80	1.67	20
Item 103	4.57	1.45	14	3.50	1.24	20

A composite score was created for the new scale by first reverse coding items that correlated negatively in the earlier calculations to standardize the direction, then calculating the mean scores for the 45 items. We computed correlations on this composite score with the four adjustment scores. Table 3 shows that all adjustment scores correlated significantly with the new scale. Intercorrelations for all ratings scores were also significant.

Table 3

Correlations between adjustment ratings

	1.	2.	3.	4.	5.
1. Composite scale score	--	.6817***	.6967***	.6600***	.5289**
2. Self rating of adjustment		--	.5281***	.5396***	.4046*
3. Peer rating of adjustment			--	.5953***	.2867
4. Facilitator rating of adjustment				--	.3093
5. Composite adjustment score					--

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

To confirm that the correlations for the new 45-item scale were not due to chance, we divided the remaining 108 items into two 54-item scales (Non-significant Scale A and Non-significant Scale B). A set of random numbers was generated and the items were assigned to one of the two scales according to their order on the list of randomly generated numbers. Only one adjustment score (self-rating of adjustment) correlated significantly with either scale ($r = .6269$, $p < .000$, and $r = .6257$, $p < .000$). In addition, reliability analyses, using Cronbach's alpha coefficient, were computed on the new 45-item scale and on the two non-significant item scales. The alpha coefficient for the 45-item scale was .7828. For the two 54-item scales created from the earlier non-significant items, alpha = .5143 and .3904.

Discussion

The purpose of this research was to reduce the number of items on a previous version of our survey, and in so doing, develop a manageable, valid, and reliable measure of intercultural competence. The results of our analyses suggest that the new 45-item measure, the Intercultural Adjustment Potential Scale (ICAPS), is internally reliable and does measure factors associated with adjustment of Japanese international students to American culture.

We are currently conducting analyses on normative data collected both here (in English) and in Japan (in Japanese) to test for the underlying factors of the 45-item ICAPS. At the same time, we are in the process of analyzing other data collected on the measure to check for test-retest reliability and language equivalence. Future work on this new scale will include testing for convergent validity. Also, we have categorized responses from the

focus group discussions into themes and operationalized the themes into outcome variables. We will be testing ICAPS with subjective and objective measures of the outcome variables in a large sample survey to further evaluate the psychometric properties of the new scale.

We feel our measure has practical utility especially for international advising offices of American colleges and universities. Given the number of international students currently in the U.S. and the need to foster international understanding and cooperation, ensuring success for these sojourners is increasingly important. While we have not found another measure that would identify predictors of successful sojourner adjustment to life in the United States, ours is only one possibility of such a measure. Using the theoretical model outlined above, others could be constructed (or may have been constructed already) for use with international students from other cultures, for employees of multinational corporations, or for other sojourners to the United States.

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